

IN THE SPECIFICATION:

Please replace the first paragraph on page 10 with the following:

Fig. 2A is a sectional view of a PIN photo diode according to the present an embodiment of the present invention, and Fig. 2B is a view of the spread of a depletion layer when an inverse bias is applied to the PIN photo diode in Fig. 2A;

Please replace the third paragraph of page 10 with the following:

Fig. 4 shew shows the impurity profile in a depth direction of a PIN photo diode according to an embodiment of the present invention; and

Please replace the fourth paragraph of page 10 with the following:

Fig. 5 is a view of the dependence on the wavelength of incident light of the sensitivity of a PIN photo diode according to an embodiment of the present invention.

Please replace the first paragraph of the "DESCRIPTION OF THE PREFERRED EMBODIMENTS" section with the following:

Below, preferred embodiments of the present invention will be described with reference to the accompanying drawings.

Please replace the third full paragraph of page 11 with the following:

When applying a predetermined inverse bias of, for example, about 2.5V to the pn-junction of the PIN photo diode shown in Fig. 2A, the depletion layer V spreads to the directions of the p⁺-type semiconductor layer 11 and n-type semiconductor layer from the pn-junction surface as shown in Fig. 2B.

Please replace the first full paragraph of page 16 with the following:

Accordingly, in Fig. 2B, it is preferable to use as a semiconductor substrate 10, a substrate with a surface concentration of the p-type impurity of at least $1 \times 10^{17}/\text{cm}^3$, and to bring an end face S_a of the depletion layer V on the semiconductor substrate 10 side and the surface S_b of the semiconductor substrate 10 closer to a predetermined distance or less (for example, 3 μm or less). By doing so, carriers generated in the regions of the low impurity concentration other than the depletion layer are reduced, the frequency characteristics of the photo diode are improved, and it becomes to obtain a high speed can be obtained.